

## Supporting Information

### **FAPbBr<sub>3</sub> Perovskite Nanocrystals Decorated on Graphitic Carbon Nitride (g-C<sub>3</sub>N<sub>4</sub>) Sheet for Interfacial Hole Transfer**

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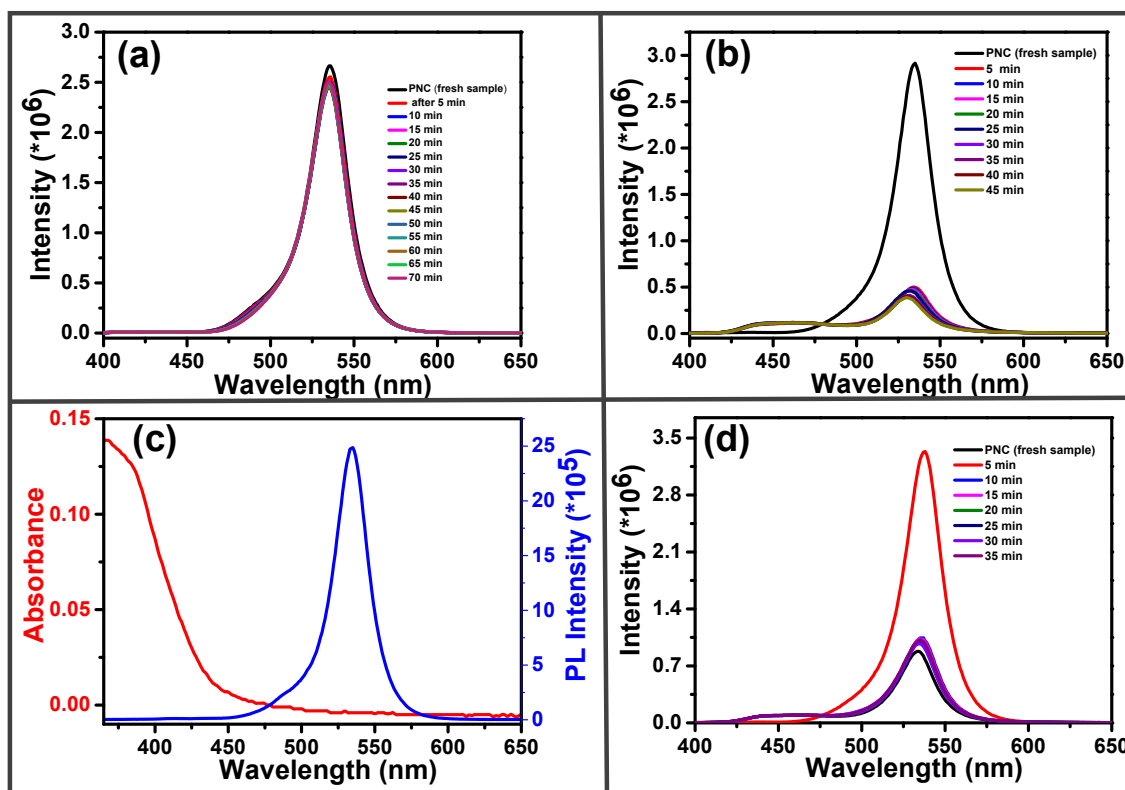
## **Content**

**Fig. S1** PL spectra of FAPbBr<sub>3</sub> perovskite nanocrystals with solvent (0 μL to 620 μL).

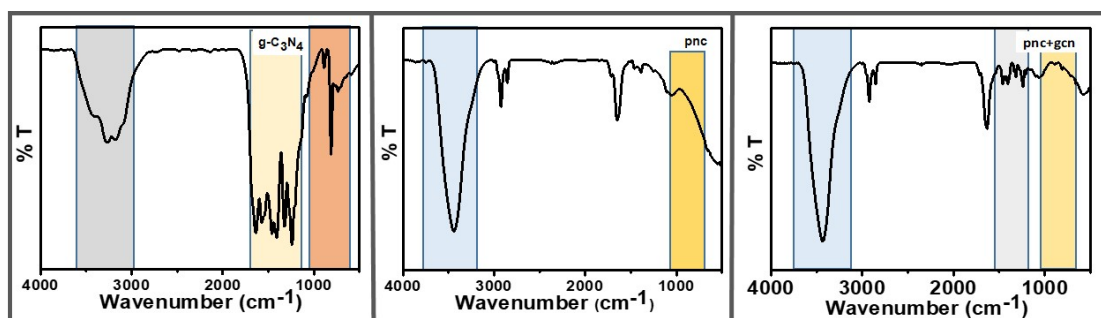
**Fig. S2** FT-IR spectra of PNC@g-C<sub>3</sub>N<sub>4</sub> nanocomposites, PNC and g-C<sub>3</sub>N<sub>4</sub>.

**Fig. S3** XPS analysis of PNC.

**Fig. S4** XPS analysis of PNC@g-C<sub>3</sub>N<sub>4</sub>.



**Fig. S1.** (a) PL spectra of FAPbBr<sub>3</sub> perovskite nanocrystals with solvent (0 μL to 620 μL) show that no significant changes were observed. This represents that g-C<sub>3</sub>N<sub>4</sub> is responsible for quenching the fluorescence of perovskite nanoparticle, (b & d) Fluorescence quenching of PNC in presence of (b) 620 μL of the g-C<sub>3</sub>N<sub>4</sub> solution, (d) with 300 μL of a g-C<sub>3</sub>N<sub>4</sub> solution, (c) No possibility of FRET.



FREQUENCY RANGE (CM <sup>-1</sup> )	FUNCTIONAL GROUP
810-812	CN heterocycle (triazine)
1234-1470	C-N stretching
3170-3190	NH, NH <sub>2</sub> stretching
3400-3480	-COOH stretching

**Fig. S2.** FT-IR spectra of PNC@g-C<sub>3</sub>N<sub>4</sub> nanocomposites, PNC and g-C<sub>3</sub>N<sub>4</sub>.

The FTIR spectra of FAPbBr<sub>3</sub>@g-C<sub>3</sub>N<sub>4</sub> and FAPbBr<sub>3</sub> show a negligible shift in stretching vibrational frequency. However, an additional peak present at 1313.27 cm<sup>-1</sup> indicates the g-C<sub>3</sub>N<sub>4</sub> environment present around the FAPbBr<sub>3</sub> perovskite nanoparticle.

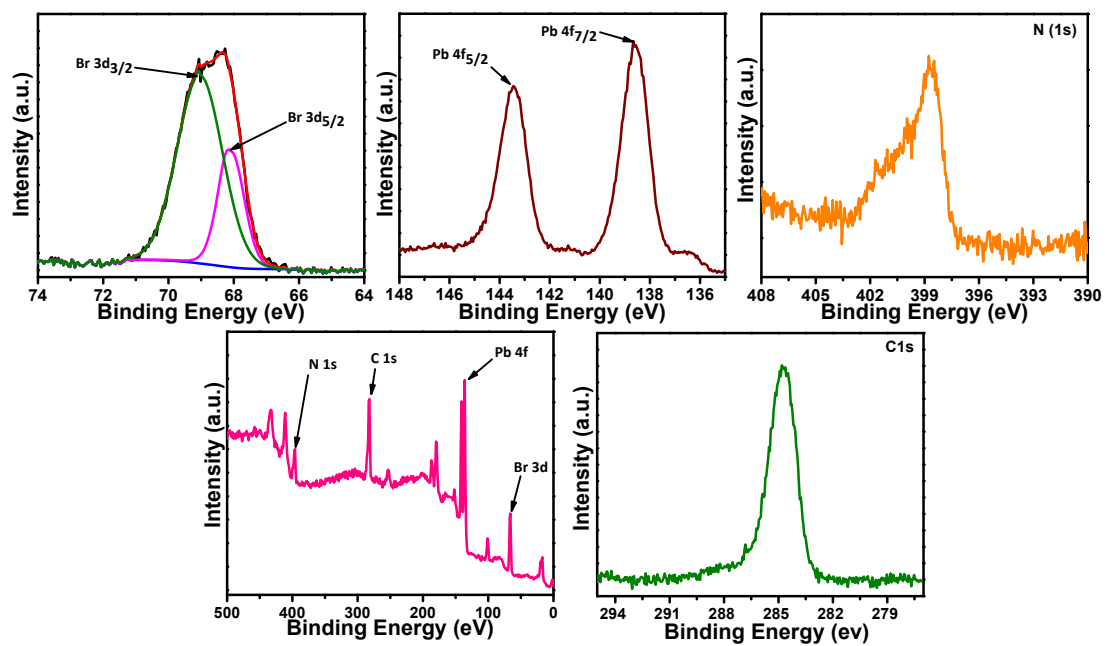


Fig. S3 XPS analysis of PNC.

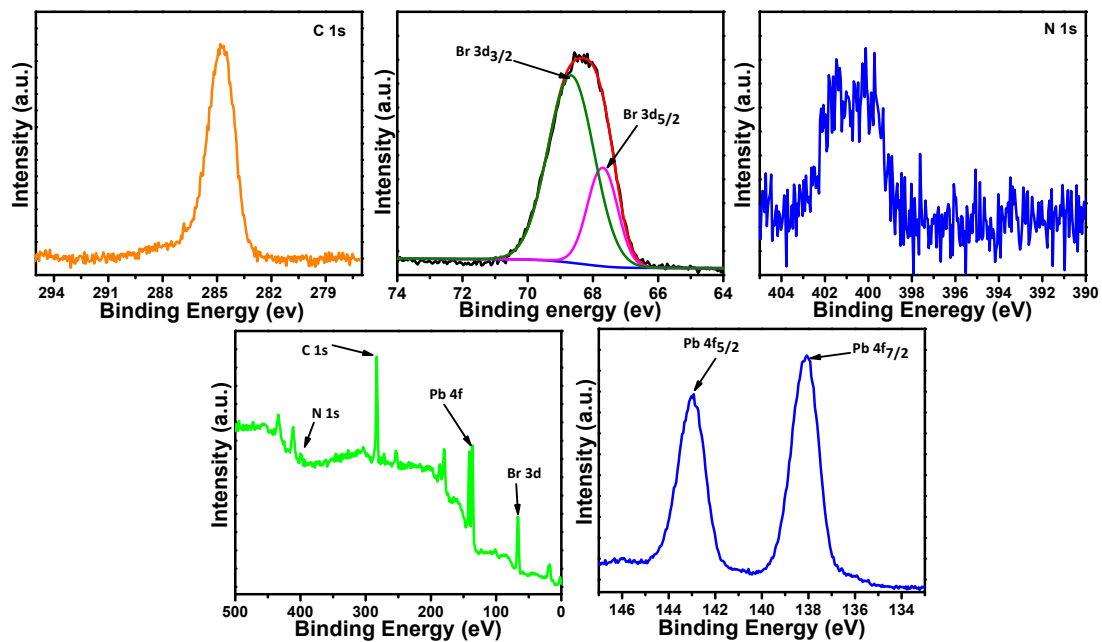


Fig. S4 XPS analysis PNC@g-C<sub>3</sub>N<sub>4</sub>.